

Dickinson County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

10/3/14

14 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Dickinson County economy.¹

These 14 sectors have a total direct output of approximately \$484 million and support 1,826.5 jobs in Dickinson County. Running the model for all 14 sectors simultaneously produces the following results:

Agriculture Contribution in Dickinson Co						
Impact Type ²	Employment	% Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	1,826.5	19%	113,742,974.3	18%	484,231,555.5	76%
Indirect Effect	320.3	3%	34,725,334.6	5%	59,815,768.1	9%
Induced Effect	189.5	2%	17,278,658.9	3%	26,438,564.5	4%
Total Effect	2,336.3	24%	165,746,967.8	26%	570,485,888.1	90%

As shown in the above table, agriculture, food, and food processing supports 2,336.3 jobs, or 24% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$570 million, roughly 90% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 14 agriculture, food, and food processing sectors is approximately \$166 million, or 26% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 26% of the total economy.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:

http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value added = labor income + indirect business taxes + other property type income.

⁴ GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

⁵ Output = intermediate inputs + value added.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 577.1 employees. This table also shows the amount of jobs that are created by the agriculture industry in Dickinson County.

Description	Total Employment	Total Output
Grain farming	577.1	51,449,846.1
Confectionery manufacturing from purchased chocolate	458.9	192,428,295.7
Cattle ranching and farming	326.0	78,299,579.6
Support activities for agriculture and forestry	139.0	185,117.7
Oilseed farming	95.6	23,595,529.5
Animal production, except cattle and poultry and eggs	92.6	7,195,512.4
Wholesale trade businesses	65.4	11,780,722.1
Real estate establishments	45.7	6,025,877.0
Management of companies and enterprises	45.2	7,810,674.8
All other crop farming	39.1	21,894,930.6

The Confectionery manufacturing from purchased chocolate industry directly contributes approximately \$192 million to Dickinson County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Description	Total Employment	Total Output
Confectionery manufacturing from purchased chocolate	458.9	192,428,295.7
Cattle ranching and farming	326.0	78,299,579.6
Grain farming	577.1	51,449,846.1
Other animal food manufacturing	34.4	50,188,660.8
Flour milling and malt manufacturing	35.4	47,641,778.4
Oilseed farming	95.6	23,595,529.5
All other crop farming	39.1	21,894,930.6
Wholesale trade businesses	65.4	11,780,722.1
Monetary authorities and depository credit intermediation activities	31.7	10,509,615.1
Imputed rental activity for owner-occupied dwellings	0.0	8,506,926.1

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Dickinson County's economy.

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All 105 counties in Kansas have Implan models and agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.